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EXAMINER

O CONNOR, BRIAN T

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/786,529	LUCIANI, JAMES V.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BRIAN O CONNOR	2475	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2012.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 91-94,96-118,120,121 and 123-145 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 91-94,96-118,120,121 and 123-145 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This office action is in response to applicant's amendment filed on 06/04/2012.
2. Claims 91-94, 96-118, 120, 121, and 123-145 are currently pending.

### ***Claim Objections***

3. Claims 91 and 143 are objected to because of the following informalities:

**With respect to claim 91**, the examiner proposes amending the preamble, on line 3, from "comprising:" to "the method comprising:" to define the comprising term applies to the method rather than the NBMA network. Applicant may amend the claim in this proposed manner or argue that the proposed claim amendment is not required.

**With respect to claim 143**, the examiner proposes amending the preamble, on line 2, from "in, comprising:" to "in a non-broadcast multiple access (NBMA) network the method ,comprising:" to define the comprising term applies to the method rather than the destination station. Applicant may amend the claim in this proposed manner or argue that the proposed claim amendment is not required.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 91-94, 96, 118, 120, 121, and 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa et al. (US 6,009,102; hereafter Horikawa) in view of Borella et al. (US 6,269,099 B1; hereafter Borella).

**With respect to claim 91**, Horikawa discloses a method to obtain information transmitted between a source station (**Terminal 11 of FIG. 1**) and a destination station in a non broadcast multiple access network (**Network 1 of FIG. 1; column 4, lines 18-24; column 3, lines 21-24**), comprising:

establishing a connection between the source station (**Terminal 11 of FIG. 1**) and a server (**Router Server 400 of FIG. 1**) for the destination station (**Terminal 41 of FIG. 1**), the server having a server cache (**IP ROUTING TABLE, 205 of FIG. 2**) containing the information (**AUTHENTICATION KEY of Table in FIG. 7**);

transmitting a request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG. 7**) having parameters relating to the information (**AUTHENTICATION KEY of Table in FIG. 7**) to the server (**Router Server 400 of FIG. 1**); and

receiving a reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) containing the

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information from the server (**Router Server 400 of FIG. 1**), the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) matching the parameters (**AUTHENTICATION KEY of Table in FIG. 7**) of the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG. 7**).

Horikawa does not disclose including information that at least partially includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address.

Borella discloses including information that at least partially includes a mapping (**Discovery Table in FIG. 3B; Discovery Table in FIG. 8A; Discovery Table in FIG. 8B**) of NBMA subnetwork layer addresses (**Peer HOST, 58 of FIG. 3B; Peer Host of FIG. 8A; Peer Host of FIG. 8B**) to internetwork layer addresses (**Peer, 56 of FIG. 3B; Peer of FIG. 8A; Peer of FIG. 8B**) to resolve an internetwork address.

Borella teaches the benefit of increased security and reliability by using mapping tables for address look-up functions (**column 4, lines 5-14**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the mapping table as taught by Borella in the method and system of Horikawa to produce an expected and successful resulting network technique.

**With respect to claim 92**, Horikawa further discloses wherein the information comprises the internetwork layer address (**ADDRESS INFORMATION of Table in FIG. 7**) of the destination station (**Terminal 41 of FIG. 1**).

**With respect to claim 93**, Horikawa further discloses wherein the information comprises an instance of a resource information (**AUTHENTICATION KEY of Table in FIG. 7**).

**With respect to claim 94**, Horikawa further discloses wherein the resource information comprises a resource availability and an upper layer address information (**ADDRESS INFORMATION of Table in FIG. 7**).

**With respect to claim 95**, Horikawa further discloses comprising:  
caching the address in a source cache (**IP ROUTING TABLE, 205 of FIG. 2**);  
inserting the address (**ADDRESS INFORMATION of Table in FIG. 7**) in a data packet; and  
forwarding the data packet to the destination station (**Terminal 41 of FIG. 1**).

**With respect to claim 96**, Horikawa further discloses wherein the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG. 7**) and the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) are instances of a protocol packet (**column 3, lines 22-24; see the NHRP protocol**).

**With respect to claim 118**, Horikawa discloses a system comprising:

a server (**Router Server 400 of FIG. 1**) operating in a non broadcast multiple access network (NBMA) (**Network 1 of FIG. 1; column 4, lines 18-24; column 3, lines 21-25**), the server (**Router Server 400 of FIG. 1**) having a cache (**IP ROUTING TABLE, 205 of FIG. 2**) containing information on a destination station (**Terminal 41 of FIG. 1**);

a source station (**Terminal 11 of FIG. 1**) coupled to the server (**Router Server 400 of FIG. 1**) via a connection to obtain the information, the source station (**Terminal 11 of FIG. 1**) transmitting a request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) to the server, the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**) having parameters relating to the information; and

wherein the server (**Router Server 400 of FIG. 1**) transmits a reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) containing the information to the source station (**Terminal 11 of FIG. 1**), the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) matching the parameters of the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG .7**).

Horikawa does not disclose including information that at least partially includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address.

Borella discloses including information that at least partially includes a mapping (**Discovery Table in FIG. 3B; Discovery Table in FIG. 8A; Discovery Table in FIG. 8B**) of NBMA subnetwork layer addresses (**Peer HOST, 58 of FIG. 3B; Peer Host of FIG. 8A; Peer Host of FIG. 8B**) to internetwork layer addresses (**Peer, 56 of FIG. 3B; Peer of FIG. 8A; Peer of FIG. 8B**) to resolve an internetwork address.

Borella teaches the benefit of increased security and reliability by using mapping tables for address look-up functions (**column 4, lines 5-14**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the mapping table as taught by Borella in the method and system of Horikawa to produce an expected and successful resulting network technique.

**With respect to claim 120**, Horikawa further discloses wherein the information comprises an instance of a resource information (**AUTHENTICATION KEY of Table in FIG. 7**).

**With respect to claim 121**, Horikawa further discloses wherein the resource information comprises a resource availability and an upper layer address information (**ADDRESS INFORMATION of Table in FIG. 7**).



**With respect to claim 123**, Horikawa further discloses wherein the request packet (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG. 7**) and the reply packet (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) are instances of a protocol packet (**column 3, lines 22-24; see the NHRP protocol**).

6. Claims 97-116 and 124-141 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view Borella and further in view of Cox et al. (US 6,189,041 B1; hereafter Cox).

**With respect to claim 97**, Horikawa does not disclose wherein the protocol packet comprises a fixed part and a mandatory part.

Cox discloses wherein the protocol packet comprises a fixed part (**501, 502, 503, 504, 505 of FIG. 5**) and a mandatory part (**510, 511 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 98**, Horikawa does not disclose wherein the protocol packet further comprises an extensions part.

Cox discloses wherein the protocol packet further comprises an extensions part **(514, 515, 516, 517 of FIG. 5)**.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 99**, Horikawa does not disclose wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field specifying if the extension part exists and a location of the extension part if the extension part exists.

Cox discloses wherein the fixed part comprises a type field specifying a packet type and an extension offset field **(514 of FIG. 5)** specifying if the extension part **(514, 515, 516, 517 of FIG. 5)** exists and a location **(514 of FIG. 5)** of the extension part if the extension part exists **(514, 515, 516, 517 of FIG. 5)**.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

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extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 100**, Horikawa does not disclose wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried,

a type and length of source address field specifying a type and length of a source NBMA address, and

a type and length of source subaddress field specifying a type and length of a source NBMA subaddress.

Cox discloses wherein the fixed part further comprises at least one of a link layer address field specifying a type of link layer addresses being carried,

a type and length of source address field (**503 of FIG. 5**) specifying a type and length of a source NBMA address, and

a type and length of source subaddress field (**504 of FIG. 5**) specifying a type and length of a source NBMA subaddress.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

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Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 101**, Horikawa does not disclose wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type.

Cox discloses wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type (**column 6, lines 1-10**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 102**, Horikawa does not disclose wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively.

Cox discloses wherein the request packet is one of a resolution request packet and a registration request packet, the resolution and the registration request packets

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corresponding to the resolution and registration request types (**column 6, lines 1-10**), respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 103**, Horikawa does not disclose wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox discloses wherein the reply packet is one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types (**column 6, lines 1-10**), respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 104**, Horikawa does not disclose wherein the mandatory part comprises a common header.

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) comprises a common header (**510 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 105**, Horikawa does not disclose wherein the mandatory part further comprises at least a client information entry (CIE).

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) further comprises at least a client information entry (CIE) (**512 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 106**, Horikawa does not disclose wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

Cox discloses wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field (**510 of FIG. 5**) specifying a request ID.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 107**, Horikawa does not disclose wherein the common header further comprises a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox discloses wherein the common header further comprises a source NBMA address field (**505 of Fig. 5**) specifying the source NBMA address (**505 of Fig. 5**), a

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source NBMA subaddress field specifying the source NBMA subaddress (**507 of Fig. 5**), a source protocol address field specifying a source protocol address (**512 of Fig. 5**) of the source station, and a destination protocol address field (**503 of Fig. 5**) specifying a destination protocol address of one of the destination station and the server.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 108**, Horikawa does not disclose wherein the CIE comprises a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

Cox discloses wherein the CIE comprises a code field specifying an acknowledgment of the request packet in the reply packet (**column 6, lines 1-10**), a maximum transmission unit field specifying a maximum transmission unit (**511 of FIG. 5**) and a holding time field (**501 of FIG. 5**) specifying a holding time for which data in the CIE are valid.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the



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extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 109**, Horikawa does not disclose wherein the CIE further comprises a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a client subaddress time and length field specifying a time and length of a client sub address interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox discloses wherein the CIE further comprises a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client subaddress time and length field specifying a time and length of a client sub address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client NBMA address field specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field (**512 of FIG. 5**) specifying a client internetworking layer address.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

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extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 110**, Horikawa does not disclose wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution request packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 111**, Horikawa does not disclose wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution reply packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 112**, Horikawa does not disclose wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox discloses wherein the flag of the registration request packet (**column 6, lines 1-10**) comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 113**, Horikawa does not disclose wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

Cox discloses wherein the extension part comprises at least an extension type-length-value (TLV) triplet (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

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Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 114**, Horikawa does not disclose wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

Cox discloses wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 115**, Horikawa does not disclose wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension

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value specifying an extension information, and an extension length specifying a length of an extension value.

Cox discloses wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 116**, Horikawa does not disclose wherein the extension part is terminated by an end-of-extension TLV triplet.

Cox discloses wherein the extension part is terminated by an end-of-extension TLV triplet (**column 8, lines 40-42**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

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Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 124**, Horikawa does not disclose wherein the protocol packet comprises a fixed part and a mandatory part.

Cox discloses wherein the protocol packet comprises a fixed part (**501, 502, 503, 504, 505 of FIG. 5**) and a mandatory part (**510, 511 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 125**, Horikawa does not disclose wherein the protocol packet further comprises an extensions part.

Cox discloses wherein the protocol packet further comprises an extensions part (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

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Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 126**, Horikawa does not disclose wherein the fixed part comprises a type field specifying a packet type and an extension offset field specifying a location of the extension part if the extension part exists.

Cox discloses wherein the fixed part (**501, 502, 503, 504, 505 of FIG. 5**) comprises a type field specifying a packet type and an extension offset field (**514, 515, 516, 517 of FIG. 5**) specifying a location of the extension part if the extension part exists (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 127**, Horikawa does not disclose wherein the fixed part further comprises a link:

layer address field specifying a type of link layer addresses being carried,



a type and length of source address field specifying a type and length of a source NBMA address, and a type and length of source sub address field specifying a type and length of a source NBMA subaddress.

Cox discloses wherein the fixed part further comprises at least one of a link:  
layer address field specifying a type of link layer addresses being carried,  
a type and length of source address field (**503 of FIG. 5**) specifying a type and length of a source NBMA address, and a type and length of source sub address field (**504 of FIG. 5**) specifying a type and length of a source NBMA subaddress.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 128**, Horikawa does not disclose wherein the mandatory part comprises a common header.

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) comprises a common header (**510 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of

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Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 129**, Horikawa does not disclose wherein the mandatory part further comprises at least a client information entry (CIE).

Cox discloses wherein the mandatory part (**510, 511 of FIG. 5**) further comprises at least a client information entry (CIE) (**512 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 130**, Horikawa does not disclose wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID.

Cox discloses wherein the common header comprises at least one of a flag field specifying a flag and a request identification (ID) field specifying a request ID (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 131**, Horikawa does not disclose wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type, the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox discloses wherein the packet type is one of a resolution request type, a resolution reply type, a registration request type, and a registration reply type (**column 6, lines 1-10**), the request packet being one of a resolution request packet and a registration request packet, the resolution and the registration request packets corresponding to the resolution and registration request types, respectively, and the reply packet being one of a resolution reply packet and a registration reply packet, the resolution and the registration reply packets corresponding to the resolution and registration reply types, respectively.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 132**, Horikawa does not disclose wherein the common header further comprises a source NBMA address field specifying the source NBMA address, a source NBMA subaddress field specifying the source NBMA subaddress, a source protocol address field specifying a source protocol address of the source station, and a destination protocol address field specifying a destination protocol address of one of the destination station and the server.

Cox discloses wherein the common header further comprises a source NBMA address field (**505 of Fig. 5**) specifying the source NBMA address, a source NBMA subaddress field (**507 of Fig. 5**) specifying the source NBMA subaddress, a source protocol address field (**512 of Fig. 5**) specifying a source protocol address of the source station, and a destination protocol address field (**503 of Fig. 5**) specifying a destination protocol address of one of the destination station and the server.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

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extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 133**, Horikawa does not disclose wherein the CIE comprises a code field specifying an acknowledgment of the request packet in the reply packet, a maximum transmission unit field specifying a maximum transmission unit and a holding time field specifying a holding time for which data in the CIE are valid.

Cox discloses wherein the CIE comprises a code field specifying an acknowledgment of the request packet in the reply packet (**column 6, lines 1-10**), a maximum transmission unit field specifying a maximum transmission unit (**511 of FIG. 5**) and a holding time field (**501 of FIG. 5**) specifying a holding time for which data in the CIE (**512 of FIG. 5**) are valid.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 134**, Horikawa does not disclose wherein the CIE further comprises at least two of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part, a

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client subaddress time and length field specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part, a client NBMA address field specifying a client NBMA address, a client NBMA sub address field specifying a client NBMA subaddress, and a client protocol address field specifying a client internetworking layer address.

Cox discloses wherein the CIE further comprises at least two of a client address time and length field specifying a time and length of a client address interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client subaddress time and length field (**501 of FIG. 5**) specifying a time and length of a client subaddress interpreted by the link layer address field in the fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a client NBMA address field (**505 of Fig. 5**) specifying a client NBMA address, a client NBMA sub address field (**507, 508 of FIG. 5**) specifying a client NBMA subaddress, and a client protocol address field (**512, 513 of FIG. 5**) specifying a client internetworking layer address.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 135**, Horikawa does not disclose wherein the flag of the resolution request packet comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution request packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a uniqueness value specifying that only a CIE (**512 of FIG. 5**) matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 136**, Horikawa does not disclose wherein the flag of the resolution reply packet comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of

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information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate.

Cox discloses wherein the flag of the resolution reply packet (**column 6, lines 1-10**) comprises at least one of a station type specifying whether the source station is a router or a host, a destination value specifying that an association of information between the destination and source stations is guaranteed stable within the holding time, a uniqueness value specifying that only a CIE (**512 of FIG. 5**) matching the parameters and having the same uniqueness value is included in the reply packet, and a guarantee value specifying that a binding of the information is guaranteed stable and accurate (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 137**, Horikawa does not disclose wherein the flag of the registration request packet comprises at least a uniqueness value specifying that a registration of the information is unique.



Cox discloses wherein the flag of the registration request packet (**column 6, lines 1-10**) comprises at least a uniqueness value specifying that a registration of the information is unique.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 138**, Horikawa does not disclose wherein the extension part comprises at least an extension type-length-value (TLV) triplet.

Cox discloses wherein the extension part (**514, 515, 516, 517 of FIG. 5**) comprises at least an extension type-length-value (TLV) triplet (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 139**, Horikawa does not disclose wherein the extension TLV triplet in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource.

Cox discloses wherein the extension TLV triplet (**514, 515, 516, 517 of FIG. 5**) in the protocol packet contains information regarding one of an internetwork layer address of a station, an internet protocol (IP) address of the destination station, an availability of an upper layer protocol resource, and an instance of an upper layer protocol resource (**column 8, lines 60-65**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 140**, Horikawa does not disclose wherein the extension TLV triplet comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

Cox discloses wherein the extension TLV triplet (**514, 515, 516, 517 of FIG. 5**) comprises at least one of a compulsory value specifying if the extension part is ignored, an extension type specifying an extension protocol (**column 8, lines 40-42**) being used, an extension value specifying an extension information, and an extension length specifying a length of an extension value.

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 141**, Horikawa does not disclose wherein the extension part is terminated by an end-of-extension TLV triplet.

Cox discloses wherein the extension part is terminated by an end-of-extension TLV triplet (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

7. Claims 117 and 142 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Borella and further in view of Cox and further in view of Beser (US 6,442,158 B1).

**With respect to claim 117**, Horikawa does not disclose wherein the extension TL V triplet contains vendor private information including a vendor identification.

Beser discloses wherein the extension TLV triplet (**column 14, lines 8-10**) contains vendor private information including a vendor identification (**column 14, TABLE 6, see the Vendor Identifier**).

Beser realizes the ease of implementation while configuration network system when using TLV formats (**column 2, lines 43-50**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the TLV format as taught by Beser with the method and system of Horikawa to produce an expected and successful network route setting technique.

**With respect to claim 142**, Horikawa does not disclose wherein the extension TLV triplet contains vendor private information including a vendor identification.

Beser discloses wherein the extension TLV triplet (**column 14, lines 8-10**) contains vendor private information including a vendor identification (**column 14, TABLE 6, see the Vendor Identifier**).

Beser realizes the ease of implementation while configuration network system when using TLV formats (**column 2, lines 43-50**). Thus, it would have been obvious to

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one of ordinary skill in the art at the time of the invention to use the TLV format as taught by Beser with the method and system of Horikawa to produce an expected and successful network route setting technique.

8. Claim 143 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Takahashi et al. (US 6,205,148 B1; hereafter Takahashi) and further in view of Borella.

**With respect to claim 143**, Horikawa discloses a method to obtain information transmitted between a source station (**Terminal 11 of FIG. 1**) and a destination station (**Terminal 41 of FIG. 1**) in, comprising:

establishing a connection with a server (**Router Server 400 of FIG. 1**) for a destination station (**Terminal 41 of FIG. 1**), the server (**Router Server 400 of FIG. 1**) including a cache (**IP ROUTING TABLE, 205 of FIG. 2**);

receiving a first packet requesting resolution (**column 7, lines 28-30; column 8, lines 17-19; RESOLUTION REQUEST packet and PURGE REQUEST packet of FIG. 7**) of an internetwork layer address for a destination station (**Terminal 41 of FIG. 1**); and

returning a second packet in reply (**column 7, lines 31-33; column 8, lines 20-22; RESOLUTION REPLY packet and PURGE REPLY packet of FIG. 7**) to the first packet, the second packet containing a protocol address (**ADDRESS INFORMATION of Table in FIG. 7**) for the destination station (**Terminal 41 of FIG. 1**).

Horikawa does not disclose a resolution of an internetwork layer address for a destination station using an Inverse Next Hop Resolution Protocol (InNHRP).

Takahashi discloses a resolution (**FIG. 20; FIG. 21; column 10, lines 43-66**) of an internetwork layer address for a destination station using an Inverse Next Hop Resolution Protocol (InNHRP) (**ARP/NHRP server of FIG. 5A; Inverse-Arp request of FIG. 5A; Inverse-ARP Response of FIG. 5A; Inverse-ARP request of FIG. 5B; Inverse-ARP response of FIG. 5C**)..

Takahashi teaches the benefit of recovering from known and unknown lost packet errors by using inverse NHRP/ARP requests (**column 2, lines 46-66**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the inverse request/response as taught by Takahashi with the method of Horikawa to produce an expected and successful resulting network technique.

Horikawa does not disclose including information that at least partially includes a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address.

Borella discloses including information that at least partially includes a mapping (**Discovery Table in FIG. 3B; Discovery Table in FIG. 8A; Discovery Table in FIG. 8B**) of NBMA subnetwork layer addresses (**Peer HOST, 58 of FIG. 3B; Peer Host of**

**FIG. 8A; Peer Host of FIG. 8B)** to internetwork layer addresses (**Peer, 56 of FIG. 3B; Peer of FIG. 8A; Peer of FIG. 8B)** to resolve an internetwork address.

Borella teaches the benefit of increased security and reliability by using mapping tables for address look-up functions (**column 4, lines 5-14**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the mapping table as taught by Borella in the method and system of Horikawa to produce an expected and successful resulting network technique.

9. Claims 144 and 145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikawa in view of Takahashi and further in view of Borella and further in view of Cox.

**With respect to claim 144**, Horikawa further discloses wherein the first packet and the second packet are instances of a protocol packet (**column 3, lines 22-24; see the NHRP protocol**).

Horikawa does not disclose wherein the protocol packet comprises a fixed part, a mandatory part, and an extension part.

Cox discloses wherein the protocol packet comprises a fixed part (**501, 502, 503, 504, 505 of FIG. 5**), a mandatory part (**510, 511 of FIG. 5**), and an extension part (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

**With respect to claim 145**, Horikawa does not disclose wherein the fixed part comprises a type field specifying a packet type and an extension offset field specifying a location of the extension part.

Cox discloses wherein the fixed part comprises at least one of a type field specifying a packet type and an extension offset field (**514 of FIG. 5**) specifying if the extension part (**514, 515, 516, 517 of FIG. 5**) exists and a location of the extension part if the extension part exists (**514, 515, 516, 517 of FIG. 5**).

Cox teaches the benefit of more efficient routing by bypassing hops by using an extended NHRP packet for route creation (**column 4, lines 7-25**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extended request/reply packets as taught by Cox with the method and system of Horikawa to produce an expected and successful resulting packet forwarding network technique.

### ***Response to Arguments***



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10. Applicant's arguments filed on 6/4/2012 have been fully considered but they are not persuasive.

**A)** Applicant argues with respect to claim 91-96 and 118-123 (see page 14, first full paragraph) that “For instance, with respect to independent claim 91 for example, Applicant respectfully submits that Horikawa does not describe the operation of establishing a connection between the source station and a server for the destination station, where the server includes a server cache containing at least a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address.”

The Examiner respectfully disagrees because a new grounds of rejection is now introduced with the cited reference Borella to disclose the claimed feature of "a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address".

**B)** Applicant argues with respect to claims 97-116 and 124-141 (see page 15, second full paragraph) that “See MPEP §2143. Herein, as described below, the cited references, namely Horikawa and Cox, do not teach or suggest all of the claim limitations. Thus, no prima facie case of obviousness has been established.”

The Examiner respectfully disagrees because a new grounds of rejection is now introduced with the cited reference Borella to disclose the claimed feature of "a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address".

**C)** Applicant argues with respect to claims 116 and 142 (see page 16, fourth full paragraph) that “Applicant respectfully traverses the rejection because a prima facie case of obviousness has not been established for these claims.”

The Examiner respectfully disagrees because a new grounds of rejection is now introduced with the cited reference Borella to disclose the claimed feature of "a mapping of NBMA subnetwork layer addresses to internetwork layer addresses to resolve an internetwork address".

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN O CONNOR whose telephone number is (571)270-1081. The examiner can normally be reached on M-F, 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert W Wilson/  
Primary Examiner, Art Unit 2475

Brian O'Connor  
Examiner  
August 31, 2012